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A Quantitative, Integrated Security & Use Control Assessment for Nuclear Weapons

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Our study involves integration of security and use control assessments into an overall, quantitative estimate of the likelihood of attempts to steal a nuclear weapon followed by deliberate unauthorized detonation.

This allows a direct comparison of security and safety of nuclear weapons, which is needed to understand relative risks. Thus, resources can be allocated across the stockpile to reduce overall public risks.

We have completed a probabilistic assessment integrating security and use control assessment methodologies into a quantitative, overall risk assessment. Our work is limited in scope, incorporating vulnerability and conflict simulation modeling for just one site, and use control information which is generic in nature, not specific to the actual weapons stored at the site. However, our initial effort shows that risks of deliberate nuclear detonation by terrorist groups is at least as important as the consequences of radiological dispersion or detonation resulting from nuclear weapon accidents.

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